[0221] Another class of embodiments of the present invention has the following characteristics: Each device in this class of embodiments has one or more touch-sensitive sensors made up of adjacent, parallel, independent sub-sensors, where each sub-sensor can detect whether any part of that sub-sensor is being touched.

[0222] Yet another class of embodiments of the present invention has the following characteristics: Each device in this class of embodiments has one or more touch-sensitive edges that use sensors that can distinguish between a finger tapping or swiping on a part of a given touch sensitive edge even when the user is holding the device in a way where parts of the user's hand or hands rest on other parts of the touch sensitive edge.

[0223] Yet another class of embodiments of the present invention has the following characteristics: Each device in this class of embodiments has a color display with a horizontal pixel count between 160 and 3200 pixels and a vertical pixel count between 160 and 3200; and one or more of the edges of the device are touch sensitive using a sensor with no moving parts; and the device can detect when the user taps, double-taps, triple-taps, or swipes said one or more touch-sensitive edges and interpret that user action as a control input, even if parts of one or both of the user's hands are resting on parts of the touch sensitive edges while the user uses other parts of one or both hands to tap or swipe other parts of the touch sensitive edges. A preferred embodiment can additionally distinguish between a double-tap and a single-tap. Yet another preferred embodiment could additionally distinguish between a triple-tap, a double-tap, and a single-tap. Preferred embodiments can detect the speed and direction of swipes, as well as when they occur and which touch-sensitive edge it occurred on. Yet another preferred embodiment could additionally determine where on the given touch-sensitive edge a given swipe began an ended (i.e., where the user's finger initiated and ended contact with the touch-sensitive edge.) Yet another preferred embodiment of this class of embodiments has two or more touch sensitive edges. Yet another preferred embodiment of this class of embodiments has touch sensitive right and bottom edges. Yet another preferred embodiment of this class of embodiments has touch sensitive left, right, and bottom edges. Yet another preferred embodiment of this class of embodiments has touch sensitive left, right, top, and bottom edges. A preferred embodiment can sense when a user simultaneously swipes two edges at the same time.

[0224] Yet another class of embodiments of the present invention has the following characteristics: Each device in this class of embodiments has a color display with a horizontal pixel count between 160 and 3200 pixels and a vertical pixel count between 160 and 3200; and the frame (that is the body of the device) surrounding the display extends above, below, left, and right of the display edges by no more than 0.4 inch; and one or more of the edges of the device are touch sensitive using a sensor with no moving parts; and the device can detect when the user taps, double-taps, triple-taps, or swipes said one or more touch-sensitive edges and interpret that user action as a control input, even if parts of one or both of the user's hands are resting on parts of the touch sensitive edges while the user uses other parts of one or both hands to tap or swipe other parts of the touch sensitive edges. A preferred embodiment can additionally distinguish between a double-tap and a single-tap. Yet

another preferred embodiment could additionally distinguish between a triple-tap, a double-tap, and a single-tap. Preferred embodiments can detect the speed and direction of swipes, as well as when they occur and which touch-sensitive edge it occurred on. Yet another preferred embodiment could additionally determine where on the given touch-sensitive edge a given swipe began an ended (i.e., where the user's finger initiated and ended contact with the touch-sensitive edge.) Yet another preferred embodiment of this class of embodiments has two or more touch sensitive edges. Yet another preferred embodiment of this class of embodiments has touch sensitive right and bottom edges. Yet another preferred embodiment of this class of embodiments has touch sensitive left, right, and bottom edges. Yet another preferred embodiment of this class of embodiments has touch sensitive left, right, top, and bottom edges. A preferred embodiment can sense when a user simultaneously swipes two edges at the same time.

[0225] Yet another class of embodiments of the present invention has the following characteristics: Each device in this class of embodiments has a color display with a horizontal pixel count between 520 and 780 pixels and a vertical pixel count between 340 and 560, and a maximum pixel density of 175 ppi; and one or more of the edges of the device are touch sensitive using a sensor with no moving parts; and the device can detect when the user taps, double-taps, triple-taps, or swipes said one or more touch-sensitive edges and interpret that user action as a control input, even if parts of one or both of the user's hands are resting on parts of the touch sensitive edges while the user uses other parts of one or both hands to tap or swipe other parts of the touch sensitive edges. A preferred embodiment of this class of embodiments has touch sensitive right and bottom edges. Yet another preferred embodiment of this class of embodiments has touch sensitive left, right, top, and bottom edges. A preferred embodiment can sense when a user simultaneously swipes two edges at the same time.

[0226] Another embodiment of the present invention is a device that includes a keyboard or keypad that can extend out by sliding or rotating from behind the display, or retract back to remain substantially hidden, but that still fits the constraints of one or more of the class or embodiment descriptions described above either when the keyboard is substantially hidden or retracted (but not necessarily in both configurations). For example, a device with a retractable/extendable keyboard, and with a 600×400 pixel 144 ppi display where the body of the device is no more than 1.5 inches thick, and where the body is no more than 4.8 inches wide and no more than 3.55 inches tall when the keyboard is retracted, would fit one of the above embodiment's criteria, even if the size of the device exceeded the 3.55 inch height criteria of that embodiment when the device's keyboard is extended.

[0227] Above is described ways to make a new type of touch-sensitive sensor component that can simultaneously detect multiple points of contact. But the most common low-cost touch-sensing electronic components today are simple capacitance or resistance sensors—"simple" in that the sensor can only detect contact at one point on the sensor at a time. What follows is a description of embodiments of the present invention that use multiple independent simple sensors, positioned at different places around the edges of the device, so that even if one or more of the sensors is in